

LEXSEE 504 F2D 1143

IN THE MATTER OF THE APPLICATION OF CHARLES HENRY KROEKEL AND  
FREDERICK ANDREW PFAFF

Patent Appeal No. 74-535

UNITED STATES COURT OF CUSTOMS AND PATENT APPEALS

504 F.2d 1143; 1974 CCPA LEXIS 116; 183 U.S.P.Q. (BNA) 610

November 7, 1974, DECIDED.

PRIOR HISTORY: [\*\*1] Serial No. 770,085.

LexisNexis (TM) HEADNOTES- Core Concepts:

OPINION BY:

MARKEY

OPINION: [\*\*144]

MARKEY, Chief Judge.

This appeal is from a decision of the Patent Office Board of Appeals which upheld the examiner's rejection of all of appellants' claims under 35 USC 112. No appeal was taken with respect to claim 13. The case presents the question of whether a three-component composition claim which recites the amounts for the components as 20 to 80% by weight, 20 to 80% by weight, and 1 to 25% by weight, embracing a theoretical composition having a total weight of 101%, is sufficiently definite to satisfy the requirements of 35 USC 112, second paragraph. We conclude that it is. Accordingly, the decision below is reversed.

## The Invention

The parties have agreed that all of the claims stand or fall with independent claim 1, which is representative:

1. As an article of commerce, a resin system with reduced polymerization shrinkage in bulk molding compounds and sheet molding compounds to yield improved surface smoothness characteristics, said resin system comprising

(a) 20 to 80% by weight of an [\*] unsaturated polyester having a molecular weight per double bond factor of 142 to 215, said polyester formed as the [\*\*2] polycondensation product of at least one [\*S] unsaturated dicarboxylic acid or anhydride and at least one dihydric

alcohol or alkaline oxide with the proviso that up to 25 mol percent of said ethylenically unsaturated dicarboxylic acid can be replaced by saturated dicarboxylic acid,

(b) 20 to 80% by weight of an ethylenically unsaturated monomer system comprising at least one member of the group consisting of styrene and styrenes having hydrocarbon group ring substitution, the balance of said system comprising less than 50% of at least one member of the group consisting of lower alkyl esters of acrylic and methacrylic acid, alpha-methylstyrene, cyclic acrylates and methacrylates, [\*\*145] benzyl methacrylates and acrylates, bicyclic acrylates and methacrylates, halogenated styrenes, alkaline dimethacrylates, and diallyl phthalate and,

(c) 1 to 25% by weight of an acid functional thermoplastic addition polymer containing 0.1 to 5% by weight acid groups, said thermoplastic addition polymer characterized as soluble in (b) or in mixtures of (a) and (b),

said resin system being at least partially heterogeneous when cured.

Appellants' specification spells out broad, as well [\*\*3] as preferred and most preferred, ranges for his composition which, like those of claim 1, would together total more than 100% if the maximum amount of one range were selected together with the minimum amounts of the ranges specified for the remaining components.

## The Board Opinion

The board (Examiner-in-Chief Witherspoon dissenting) upheld the examiner's rejection for failing to satisfy the requirements of the second paragraph of 35 USC 112. Both the examiner and the board observed that by selecting the maximum amount of component (a) or (b) even the minimum amounts specified for the remaining components would result in a composition exceeding 100% for the total weight, a mathematical inconsistency.

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The board distinguished the situation presented by the rejected claims from that in which all of the figures in a specified range for a component of a composition are mathematically "possible" if appropriate percentages within the ranges specified for the remaining components are selected, as would be the case were all three components to cover the range of 10% to 80%. Although in such a case the claims might theoretically include hypothetical compositions containing more than 100% [\*\*4] (i.e., if the maximum for each component were selected, the result would be a composition containing 240%, an absurdity), the board observed, "the upper limit of 80% for one component would be possible by selecting the lowest limit of 10% for each of the other two components."

Looking to the specification for assistance in correcting or modifying the claimed ranges, the board commented:

We are unable to ascertain from a study of the specification which of the inconsistent figures are in error and which are correctly fixed for some good reason. We cannot determine the reason for or the validity of the upper limits of 80% or the lower limits of 20% and 1%. The working examples are of no assistance in this respect because, of course, the three components add up to 100% yet they do not approach the numerical limits of the claims to demonstrate criticality in 80%, 20%, or 1%. This is a case of confusion arising from apparently arbitrary selection of figures without adequate regard for their interrelationship.

Examiner-in-Chief Witherspoon filed a dissenting opinion.

In view of its commendable brevity, we set forth the relevant portion thereof in its entirety:

Mathematics [\*\*5] aside, I am convinced the public would not be confused as to what subject matter is circumscribed by appellants' claims. In *re Moore et al.*, 439 F.2d 1232, 169 USPQ 236, 238 (CCPA 1971). The requirements of the claims are clear: that each of three physical substances designated (a), (b) and (c) be present and that the amount of each be somewhere within the specified range. Since it can be readily ascertained whether a given resin system meets these two conditions, it should be clear whether such composition would or would not infringe (if made, used or sold or would or would not anticipate (if found to be prior). This is nonetheless the case because, in an arithmetic sense, a total of 101% may be obtained from a reading [\*\*1146] of the claims. Subject matter which cannot exist in fact can neither anticipate nor infringe in law.

The board's opinion contains this response to the foregoing dissent:

We do not agree with the opinion of Examiner-in-Chief Witherspoon that anticipation or infringement would be clear. If, for example, an allegedly anticipatory or infringing composition were made up of 80% (a), 19-1/2% (b), and 1/2% (c), appellant might well argue that such a composition [\*\*6] does not anticipate because of low amounts of (b) and (c) yet does infringe because some adjustment of (b) and (c) is necessary within the overall limit of 100%.

#### OPINION

Our inquiry is restricted to the determination of whether the claims comply with the second paragraph of section 112. Applying the analysis set forth in *In re Moore*, 58 CCPA 1042, 439 F.2d 1232, 169 USPQ 236 (1971), we must first determine whether the instant claims "set out and circumscribe a particular area with a reasonable degree of precision and particularity."

As we observed in *Moore*, claims are not to be considered in a vacuum, "but always in light of the teachings of the prior art and of the particular application disclosure as it would be interpreted by one possessing the ordinary level of skill in the pertinent art." When considered in the light of the prior art and the specification, claims otherwise indefinite may be found reasonably definite. Similarly, claims considered definite on their face may be found to be deficient under 35 USC 112, second paragraph. See *In re Cohn*, 58 CCPA 996, 438 F.2d 989, 169 USPQ 95 (1971).

We find that one having ordinary skill in this art would have no difficulty [\*\*7] ascertaining the subject matter encompassed within the scope of the appealed claims.

Although we, like the board, are inclined to question the wisdom of appellants' selection of upper and lower limits for the components of his claimed composition, we cannot agree with the board's ultimate determination to sustain the examiner's rejection of the claims as "reading on" compositions containing more than 100% by weight of the components. Clearly, a rejection based on indefiniteness cannot stand simply because the proportions actually recited in the claims may be read in theory to include compositions that are impossible in fact to formulate. In this regard we agree fully with Examiner-in-Chief Witherspoon's observation that, "[subject] matter which cannot exist in fact can neither anticipate nor infringe in law."

We do not find that determination of anticipation or infringement is rendered any less certain by appellants' claimed ranges. The board's example of a composition containing 80% (a), 19-1/2% (b) and 1/2% (c) falls plainly outside the language of the claims. Whether the board's example, or any other composition containing an amount

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of at least one component outside its [\*\*8] specified range, would infringe appellants' claims or render them unpatentable, is determinable by application of precisely the same well-recognized criteria as are applied with respect to all patent claims.

Insofar as the board's decision is based on appellants' alleged failure to demonstrate criticality for his selection of claimed ranges, we again must disagree. We note in this regard that there are no outstanding rejections based on prior art. When an applicant seeking a patent for a chemical composition claims a range of proportions for various elements thereof, he need not demonstrate the crit-

icality of his selection of a particular range unless such criticality is essential to non-obviousness.

In view of the foregoing, it is unnecessary to rule on the propriety of the board's refusal to consider certain new arguments raised by appellants for the first time on oral hearing before the board. [\*1147]

The decision of the Patent Office Board of Appeals sustaining the rejection of claims 1, 3-12, 14-22, and 24-28 under the second paragraph of 35 USC 112 [\*\*9] is reversed.

REVERSED

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In re Kroekel, 504 F.2d 1143, 1974 CCPA LEXIS 116, 183 U.S.P.Q. (BNA) 610 (C.C.P.A. 1974)

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**SHEPARD'S SUMMARY****Shepard's FULL Summary:**

No negative subsequent appellate history.

**Citing References:**

Citing Decisions: Citing decisions with no analysis assigned (4)  
Other Sources: Statutes (1), Treatises (5)

**PRIOR HISTORY ( 0 citing references )****(CITATION YOU ENTERED):***In re Kroekel, 504 F.2d 1143, 1974 CCPA LEXIS 116, 183 U.S.P.Q. (BNA) 610 (C.C.P.A. 1974){Positive}***SUBSEQUENT APPELLATE HISTORY ( 3 citing references )**

1. **Later proceeding at:**  
*Comstock v. Kroekel, 212 U.S.P.Q. (BNA) 866 (Bd. Pat. Interferences June 19, 1980){Caution}*
2. **Later proceeding at:**  
*Ex parte Kroekel, 1985 Pat. App. LEXIS 18, 230 U.S.P.Q. (BNA) 191 (Bd. Pat. App. & Interferences July 12, 1985){Caution}*
3. **Affirmed by:**  
*In re Kroekel, 803 F.2d 705, 1986 U.S. App. LEXIS 20370, 231 U.S.P.Q. (BNA) 640 (Fed. Cir. 1986){Caution}*

**CITING DECISIONS ( 4 citing decisions )****3RD CIRCUIT - U.S. DISTRICT COURTS**

4. **Cited by:**  
*Crucible, Inc. v. Stora Kopparbergs Bergslags AB, 594 F. Supp. 1249, 1984 U.S. Dist. LEXIS 23422, 226 U.S.P.Q. (BNA) 36, 266 U.S.P.Q. (BNA) 36 (W.D. Pa. 1984){Caution}*  
594 F. Supp. 1249 p.1258

**9TH CIRCUIT - U.S. DISTRICT COURTS**

5. **Cited by:**  
*Syntex (U.S.A.), Inc. v. Paragon Optical, Inc., 1987 U.S. Dist. LEXIS 14544, 7 U.S.P.Q.2d (BNA) 1001 (D. Ariz. Nov. 23, 1987){Caution}*  
7 U.S.P.Q.2d (BNA) 1001 p.1036

**FEDERAL CIRCUIT - COURT OF APPEALS**

6. **Cited by:**  
*In re Kroekel, 803 F.2d 705, 1986 U.S. App. LEXIS 20370, 231 U.S.P.Q. (BNA) 640 (Fed. Cir. 1986){Caution}*

**COURT OF CUSTOMS & PATENT APPEALS**

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7. Cited by:

*In re Application of Skoll*, 523 F.2d 1392, 1975 CCPA LEXIS 123, 187 U.S.P.Q. (BNA) 481 (C.C.P.A. 1975) {Analysis}  
523 F.2d 1392 p.1395

ANNOTATED STATUTES ( 1 Citing Statute )

8. 35 USCS @ 112

TREATISE CITATIONS ( 5 Citing Sources )

9. 3-8 *Chisum on Patents* @ 8.03

10. 3-2 *Patent Law Perspectives* @ 2.9

11. *MPEP Patent Office Rules and Practice II*

12. *MPEP Patent Office Rules and Practice* @ 2173.05(c)

13. 1-V *Patent Office Rules and Practice Rule 75*